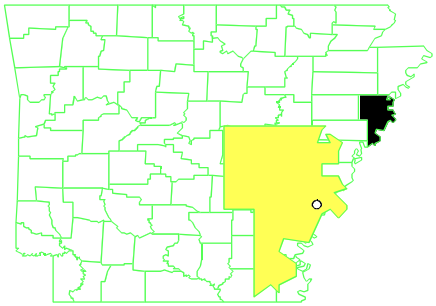
SOUTH 8TH ST. LANDFILL

ARKANSAS

EPA ID# ARD980496723



EPA REGION 6
CONGRESSIONAL DISTRICT 01
Crittenden County
West Memphis

Updated: April 2000

Other Names:
West Memphis Landfill

Site Description

Location:
- West Memphis, Crittenden County, Arkansas
- Across the Mississippi River from Memphis, TN

Population:
- An estimated 30,400 people live within 4 miles of the site.

Setting:
- The site consists of a 16 acre landfill containing industrial and municipal waste. An oily sludge pit occupies 2.5 acres of the landfill.
- Located in the two year flood plain between the St. Francis Levee and the Mississippi River. Flooding of the site can occur between November and May.
- From 1980 to 1990, the site was flooded an average of 30 days per year.
- City of West Memphis draws water from the Wilcox aquifer at a depth of 1300 feet from wells located 2 - 4 miles from the site.
- Located next to operating RV park. Drinking water for the RV park is supplied by the City of West Memphis.
- Road through the site is only access to the Mississippi River for miles on Arkansas side of the River.
- Trespassers seeking access to the River are quite common.
- Site was evaluated for use as a park by the State of Arkansas.

Hydrology:
- Very porous alluvial aquifer, ground water table ranges from a few feet to 20 feet below the ground surface depending upon the stage of the Mississippi River.
- Ground water discharges to the adjacent Mississippi River.
- A clay unit of the Claiborne Group forms the base of the alluvial aquifer at a depth of 150 feet. The alluvial aquifer is isolated from the Wilcox aquifer that supplies drinking water to the City of West Memphis.

Wastes and Volumes

Principal Pollutants:

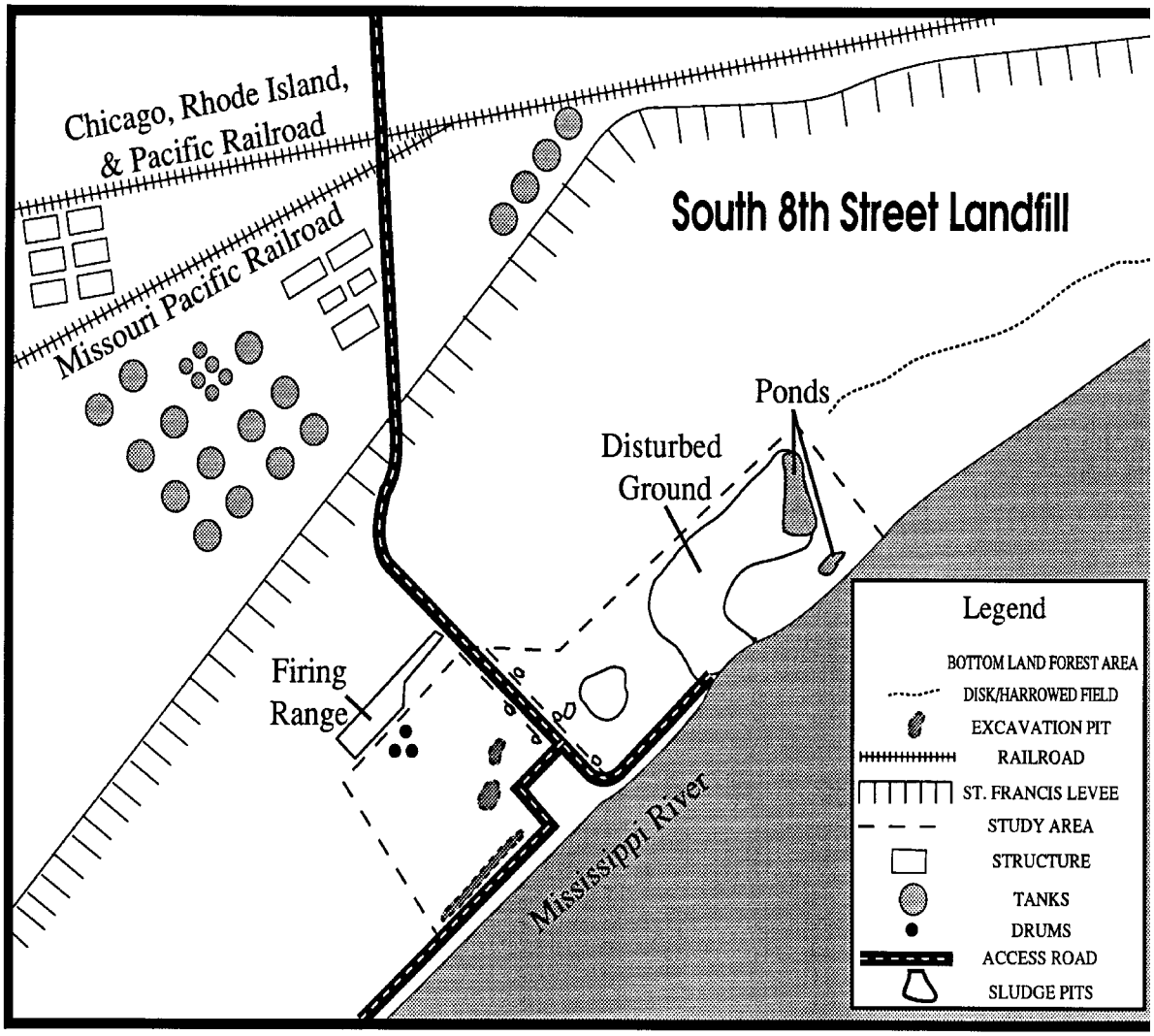
- The waste in the oily sludge pit is highly corrosive with a pH of less than 2.0 and contains lead, PCBs, carcinogenic poly-aromatic hydrocarbons (PAHs) and dioxin.

- Contaminants in the landfill areas of the site include carcinogenic PAHs and several pesticides.
- Ground water contaminants include lead, arsenic, and manganese.

Volume:

- The 2.5 acre oily sludge pit contains approximately 23,450 cubic yards of sludge and soil.
- The surface area of the landfill portions is approximately 16 acres.

Site Map and Diagram



Site Assessment and Ranking

NPL LISTING HISTORY
Site HRS Score: 50.27
Proposed Date: 2/07/92
Final Date: 10/14/92
NPL Update: No.

The Remediation Process

Site History:

- Aerial photographs indicate that the site was used for the excavation of a series of borrow pits and the subsequent disposal of waste since 1959. Most of the early disposal activities were conducted in the area of the large oily waste pit.
- EPA investigated the site between 1981 and 1988 prior to the placement of the site on the National Priorities List in 1992.
- EPA issued a Unilateral Administrative Order ("UAO") to the potentially responsible parties ("PRPs") for the South 8th Street site on May 23, 1992. The UAO required the PRPs to construct a fence around the former disposal areas and to investigate the oily sludge pit. Construction of the fence was completed in July 1992.
- On August 3, 1992, EPA commenced a Remedial Investigation and Feasibility Study ("RI/FS") for the landfill portion of the Site.
- Although the PRPs initially undertook the oily sludge pit investigation, EPA suspended the PRP activities on September 2, 1992, due to failure to comply with requirements of the UAO.
- EPA expanded the scope of its ongoing RI/FS at the Site when it took over the pit investigation in September 1992. EPA completed the RI/FS Report on June 30, 1993, addressing both the landfill and oily sludge pit at the South 8th Street site.
- In 1992, under the CERCLA time-critical removal authority, EPA constructed a 1600 linear foot berm around the oily sludge pit to minimize the spread of contamination that could result from flooding of the Site. Construction of the berm was completed between October and November 1992.
- EPA issued a Record of Decision (ROD) in September 1994 calling for on-site stabilization/ solidification and off-site disposal of the oily sludge pit wastes and a natural soil cover over the former landfill areas. The ROD split the site into a source control (landfill and pit) and ground water operable units. A decision on ground water was deferred pending collection of additional data.
- EPA encouraged the formation of a PRP group by supplying a third party mediator to act as a catalyst for group formation. A PRP group was formed to conduct the remedial design for the site.
- EPA signed an Administrative Order on Consent (AOC) on 3/02/96 in which the PRPs agreed to perform the remedial design for the site.
- The ground water remedial investigation was completed in November 1996 and the feasibility study was completed in July 1997.
- Due to repeated damage to the site security fence during flooding by the Mississippi River, EPA approved a proposal by the PRPs to discontinue repairs to the security fence and instead construct a fence along the top of the berm surrounding the oily sludge pit. The new fence

was installed in 1997.

Health Considerations:

- The primary risk at the site is attributed to the oily sludge pit. The short term risks result from the highly corrosive nature of the waste and the long-term carcinogenic risks are attributed the organic contaminants present in the waste. Long-term carcinogenic risk to the future recreational worker ($1x10^{-3}$) exposure scenario is in excess of the action level ($1x10^{-4}$).
- Arsenic in the ground water poses a long-term carcinogenic risk to the future recreational worker at the site ($5x10^{-4}$). Arsenic, manganese and lead pose a long-term non-carcinogenic risk to the future recreational worker and recreational visitor at the site. Ground water contaminants do not pose a risk to the water supply for the City of West Memphis.

Other Environmental Risks:

- An ecological risk assessment conducted on the pit wastes show that the site presents an unacceptable environmental risk (Hazard Index greater than one for several contaminants) to small mammal (mouse) and avian raptor populations (red shouldered hawk).
- The discharge of ground water contaminants into the Mississippi River does not adversely impact the water quality of the Mississippi River.

Record of Decision

Signed: September 1994
Amended: July 1998

- Community Involvement Plan: Developed 5/92
- Open Houses/Workshops: 1/92, 4/92, 2/93, 4/93, 8/93,12/94, 3/95
- Three meetings were held with public officials during 1992 and 1993, and one in 6/97
- Original Proposed Plan - 7/93; Public Meeting 8/93
- ROD - Selected 09/94
- Community meeting to brief citizens on revised ROD as signed, 12/94
- Community meeting to brief citizens on a proposed change in the ROD remedy, 6/97, 8/97, 1/98
- Proposed Plan for Amended Remedy for Source Control Operable Unit and Preferred Remedy for Ground Water Operable Unit - 1/5/98 to 2/4/98; Public Meeting - 1/26/98
- Milestone Fact Sheets: 2/92, 4/92, 7/93, 6/97, 1/98, 8/98
- Citizens on site mailing list: 150
- Site Repository: West Memphis Public Library

Technical Assistance Grant

- Availability Notice: 4/92
- Letters of Intent Received: None
- Final Application Received: N/A
- Grant Award: N/A
- Current Status: Available

Contacts

- **Remedial Project Manager (EPA):** Vincent Malott, 214/665-8313, Mail Code 6SF-AP
- **State Contact:** Massoud Arjmandi, 501/682-0852, ADPC&E
- **Community Involvement Coord. (EPA):** Donn Walters, 214/665-6483, Mail Code 6SF-PO
- **Attorney (EPA):** Anne Foster, 214/665-2169; Amy McGee, 214/665-8063; Mail Code 6SF-DL
- **State Coordinator (EPA):** Karen Bond, 214/665-6682, Mail Code 6SF-AP
- **Prime Contractor:** contract terminated as of 9/30/97

Enforcement

- General Notice sent to 25 Potentially Responsible Parties (PRPs) - 2/07/92.
- Special Notice sent to 26 PRPs - 3/18/92.
- Unilateral Administrative Order (UAO) issued to PRPs (except for City of West Memphis) to construct fence around the former disposal areas and investigate the oily sludge pit - 5/23/92. PRPs began the pit investigation in August 1992. EPA took over the pit investigation in September 1992.
- 35 PRPs formed a group to sign an Administrative Order on Consent (AOC) with EPA on 3/2/96 to design the site remedy. The PRP Group has submitted the remedial design documents required under the AOC.
- EPA has initiated the pilot allocation process for this site where a neutral allocator conducts a non-binding out of court process to assign a share of responsibility to each PRP. Under this pilot process, EPA is responsible for 100% of the orphan share, which consists of the shares of allocation parties which are insolvent or defunct. The PRPs and EPA have completed the selection process for the allocator.
- Unilateral Administrative Order (UAO) issued on 11/18/98 to fifty-seven (57) PRPs to implement the selected remedy for the oily sludge pit in the source control operable unit. EPA held a conference with the PRPs on 12/02/98 in Dallas, TX to discuss the UAO with the PRPs. The UAO was effective on 12/4/98. The PRPs notified EPA of their intent to comply with the UAO on 12/14/98.

Present Status and Issues

- The ROD Amendment was signed by the EPA Regional Administrator on July 22, 1998 for the selection of in-situ stabilization/solidification for the oily sludge pit (source control operable unit) and monitored natural attenuation with institutional controls for the ground water operable unit.
- The major components of the amended remedy for the oily sludge pit area in the source control operable unit include:
  - In-place (in-situ) stabilization/solidification of an estimated 9,000 cubic yards of sludge and 14,500 cubic yards of ancillary soil and debris in the oily sludge pit area capable of meeting the more stringent performance standards for in-place management of the treated material and protection of the site ground water;
  - In-place management of the treated waste material within the area of the oily sludge pit and ancillary soil area.
  - The collection and disposal of wastewater generated during the in-situ stabilization/solidification process and construction activities.
  - Implementation of appropriate fugitive emission controls during the in-situ

stabilization/solidification process.

- This ROD Amendment also modifies the scope of the natural soil cover to be installed on the landfill by requiring the installation of a 2-foot thick natural soil cover over part of Area 1 of the landfill and the treated oily sludge pit area in Area 2 of the landfill. In addition, the ground water monitoring component identified in the 1994 ROD is now included in the remedy component for the ground water operable unit. The remaining components of the landfill portion of the source control remedy that were identified in the 1994 ROD remain unchanged:
  - Installation of appropriate erosion control features to minimize operation and maintenance of the soil cover.
  - Installation of compensatory wetlands on-site to replace wetlands impacted during site remediation efforts.
  - Placement of deed notifications or other institutional controls to ensure that future landowners will be notified that the land was a former Superfund site and waste has been treated and is being managed at the site. EPA will attempt to negotiate a Consent Decree with the landowner of the Site to implement a deed restriction and/or other appropriate controls.
  - Long-term operation and maintenance.
- The major components of the selected remedy for the ground water operable unit include:
  - Natural attenuation of the hazardous substances in the ground water.
  - Ground water monitoring and the installation of additional monitoring wells as necessary.
  - Placement of deed notifications or other institutional controls to ensure that any future land owners will be notified that the land was a former Superfund site and hazardous substances remaining on-site in the ground water are above health-based concentration levels. EPA will attempt to negotiate a Consent Decree implementing a deed restriction and/or other appropriate controls with the landowner of the Site.
  - Long-term operation and maintenance.
  - A review conducted five years after the remedial action begins to ensure that the remedy continues to adequately protect human health and the environment.
- The Remedial Design for the amended source control remedy and the ground water remedy has been completed by the PRP Group and approved by EPA on 8/26/98.
- The PRPs selected Conestoga-Rovers & Associates (CRA) as the supervising contractor for the Remedial Action under the UAO. The Remedial Action Workplan was received from the PRPs on 1/11/99 and approved by EPA on 1/20/99.
- Mobilization activities for the Remedial Action construction to address the oily sludge pit commenced during the last week of June, 1999.
  - A soil cap was installed over a portion of the landfill in Area 1 that had waste material at the surface.
  - Stabilization/solidification of the ancillary soils is near completion. Due to instability of the waste material, further treatment was postponed until after completion of the oily sludge pit treatment.
  - Additional testing was necessary to identify a revised mix design for the oil sludge pit wastes.
  - Stabilization/solidification of the oily sludge pit with the revised mix design began in December with an expected completion date in April 2000.

Benefits

- Remediation of the South 8th Street Site will reduce risks for over 30,000 people located within a 4 mile radius of the site.

- Approximately 48 acres of natural habitat will be returned to the environment for use by mammals and birds. New wetland habitat will be constructed in the borrow pits used to supply soil for the cap on the landfill and treated waste.